

# Efficacy of Bowen's Technique on Shoulder Range of Motion, Pain, and Disability in Patients With Frozen Shoulder: A Case Report

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## ABSTRACT

### BACKGROUND

Frozen shoulder is a common debilitating condition characterized by scapulohumeral pain and progressive loss of shoulder movement. The presence of intracapsular fibrosis complicates this condition by affecting range of motion, pain, and inflammation. The Bowen technique is a system of subtle and very precise mobilizations called Bowen moves applied over muscles tendons, nerves, and fascia. The moves are performed using the fingers and thumbs, applying only gentle, non-invasive pressure.

### OBJECTIVE

The objective of the study was to evaluate the effectiveness of Bowen Therapy on range of motion, pain, and disability in patients with Frozen shoulder

### METHODOLOGY

A 35-year old male having frozen shoulder was selected according to inclusive and exclusive criteria. Pre-test for range of motion was assessed by goniometer. Pain and disability by shoulder pain and disability index scale (SPADI). Bowen's Therapy was given for 4weeks, 5days per week for 1hour of session. Following the intervention after 4weeks, the effect of both the components was assessed by same tool as in pre-test.

### RESULT

There was an increase of 30-40 degrees of range of motion after the treatment compared to its pre-test values where as in pain and disability showed improvement from very severe shoulder pain and disability to moderate shoulder pain and disability.

### CONCLUSION

Bowen Therapy was found to be effective on range of motion, pain, and disability in patients with Frozen shoulder.

**KEYWORDS:** Bowen Therapy, Frozen shoulder, Goniometer.

## INTRODUCTION

Frozen Shoulder (FS) is a common shoulder disorder manifesting as pain and progressive restriction of all shoulder movements leading to stiffness and disability<sup>(1,2)</sup>.

Frozen shoulder affects 2-5% of the general population over their lifetime, with higher prevalence rates (up to 11-30%) observed among individuals with diabetes and thyroid disease. It is more common among women (10%) than men (8%), typically occurring most frequently in individuals aged in their mid-50s<sup>3</sup>. Having frozen shoulder increases the likelihood of the opposite shoulder being affected (5% to 34%), and bilateral involvement can occur concurrently in about 14% of cases<sup>4</sup>.

Frozen shoulder can manifest as either Primary (idiopathic) or Secondary. Primary Frozen Shoulder occurs spontaneously without any known cause or trauma, while Secondary Frozen Shoulder is associated with factors such as trauma, stroke, surgery, rotator cuff disease, impingement, cardiovascular disease, primarily diabetes, or other conditions like subacromial pain<sup>1</sup>. Other risk factors contributing to frozen shoulder include smoking, obesity, and insufficient physical activity<sup>1</sup>.

Frozen shoulder typically progresses through three overlapping phases: phase 1 lasting from 2 to 9 months this phase is characterized by increasing and persistent pain during movement. Diagnosis during this phase can be challenging before significant motion loss occurs. Phase 2 spans from 4 to 12 months, marked by decreased pain but ongoing stiffness that severely limits range of motion. Pain shifts from constant to occasional discomfort at the extremes of movement. Phase 3, lasting from 12 to 42 months, represents the resolution phase. During this stage, there is gradual improvement in range of motion and resolution of stiffness, although some end-range discomfort may persist until complete recovery<sup>2</sup>.

Bowen Therapy also known as Bowen Technique is a type of manual therapy which works based on subtle and very precise mobilizations called Bowen moves, applied over muscles, tendons, nerves, and fascia. Bowen moves are performed using the fingers and thumbs, applying only gentle, non-invasive pressure<sup>6,7</sup>. The moves are applied at specific body regions in precise sequences, interspersed with pause of 2-5min to allow time for the body to respond<sup>6</sup>. The most common impact of Bowen Therapy is mainly helps to treat musculoskeletal pain and discomfort, imbalances in the body's tissues which may relate to both musculoskeletal or non-musculoskeletal disorders<sup>8</sup>. The Bowen techniques resets and repairs body, restoring balance to relieve pain and improve energy and thus it is mainly designed to free the points of tension or decreased fascial mobility, decrease pain, and restore function<sup>8,9</sup>. Bowen therapy can be complementary to other therapeutic modalities<sup>7</sup>.

Frozen Shoulder is a condition distinguished by painful restriction of all shoulder movements, both active and passive characterized by prominent reduction in the glenohumeral range of movement and leads to shoulder disability. Bowen therapy might have positive effect on pain disability and improving range of motion on frozen shoulder patient. So, it is important to provide an exercise intervention that is best suitable for patients with frozen shoulder. Hence a need was identified to find whether the Bowen therapy is useful in managing frozen shoulder. The findings of this study can be beneficial for individuals who are struggling with frozen shoulder. So that this treatment method can be used as management to treat the patient with frozen shoulder, if the results are found to be positive.

## MATERIALS AND METHODS

A 35-year-old male was selected from tertiary hospital in Mangalore South Karnataka and underwent assessment based on inclusion and exclusion criteria. Inclusion criteria comprised of subject with limited range of motion in the capsular pattern, with Shoulder pain and disability index (SPADI) score range of

with 61-80 with very severe shoulder pain and disability and history of worsening shoulder pain. Subject with unstable medical condition and under pain medication like cortisone injections were excluded. Materials used for assessment include goniometer, Shoulder pain and disability index sheet.

The Range of motion (ROM) was assessed with the goniometer. The subject was asked to score pain and functional disability by using Shoulder Pain and Disability Index (SPADI) scale. Using these scales both pre and post treatment was assessed and changes in pain levels and functional disability were noted. The patient was scheduled for physiotherapy for 5days per week for 4 weeks in 1 hour of session. The intervention and plan of care focused primarily on reducing pain and improving rom and function.

**OUTCOME MEASURES**

**RANGE OF MOTION:**

Range of motion was assessed by using goniometer. The universal goniometer is a simple measuring tool, which is frequently used by physiotherapists and other health care professional for assessing the limitation of patient’s joint motion. Shoulder joint ROM was performed and assessed in shoulder flexion, extension, abduction, adduction, external and internal rotation in supine position. Validity and reliability of universal goniometer was considered and it showed intra-rater reliability interclass correlation coefficients (ICC). Universal goniometer has a reliability of ICC varied from 0.75 to 0.95, had an error of measurement of 2.86 and minimum detectable change of 7.94<sup>19</sup>.

**SHOULDER PAIN AND DISABILITY INDEX (SPADI)**

SPADI was developed to measure current shoulder pain and disability in patients. SPADI is a self-administered questionnaire that contains 13 items that assess two domains; a 5-item subscale that measures pain and an 8-item subscale that measures disability. Pain dimension is assessed with 5 questions where the patient is made is to answer the questions, patients place a mark on a 10cm visual analogue scale for each question regarding their severity of pain. Functional disability activities are assessed with eight questions designed to measure the degree of difficulty the patients have with various activities of daily living that require upper-extremity use. Reliability and validity of SPADI was considered and it showed reliability coefficients of ICC>0.89 and internal consistency is high and demonstrates good construct validity<sup>20</sup>.

**INTERVENTIONS**

**Table No.1: Procedural intervention with dosage schedule**

TREATMENT	DOSAGE
Bowen Therapy Exercise include patient sitting with arm resting on the side. Therapist uses fingers to apply gentle rolling movements to specific areas. Therapist will stretch and move the skin with gentle pressure. The patients is asked to move arm with elbow flexed in forward and backward direction while therapist move the deltoid muscle opposite to the action	15minutes  3sets of 10 repetitions

<p>Capsular Stretching</p> <p>Posterior Capsular Stretch: Patient is asked to lift the arm to 90 degrees straight and cross is arm to the opposite side and the therapist gently applies stretch at the elbow joint</p> <p>Inferior Capsular Stretch: Patient is asked to lift the arm straight and elbow is flexed at 90 degrees at therapist gently applies stretch</p>	<p>Each capsular stretch duration 30 seconds</p> <p>Each capsular stretch duration 30 seconds</p>
<p>Scapular stabilization exercises</p> <p>Extension: In prone lying patient head is maintained at midline, and is asked to elevate the scapula and the shoulder is extended with 1kg dumbbell on both hands</p> <p>Abduction: In prone lying patient head is maintained at midline, and is asked to elevate the scapula and shoulder abducted with 1kg dumbbell on both sides</p> <p>Flexion: In prone lying patient head is maintained at midline, and is asked to elevate the scapula and shoulder is flexed</p> <p>External rotation: Patient is in supine position and the shoulder is abducted to 90 degree and elbow flexed at 90 degree and externally rotated with 1kg dumbbell</p>	<p>3sets of 10 repetitions each</p> <p>3sets of 10 repetitions each</p> <p>3sets of 10 repetitions each</p> <p>3sets of 10 repetitions each</p>
<p>Strengthening exercise for rotator cuff and scapula muscle using TheraBand</p> <p>Patient is in sitting position with elbow flexed to 90 degree and the patient is given TheraBand and is asked to externally rotate</p>	<p>2sets of 10 repetitions with red TheraBand</p>
<p>Joint mobilizations</p> <p>Posterior Glide: Patient in supine position with shoulder abducted to 90degree and internally rotated stabilize the acromion process and perform the glide in posterior lateral direction</p> <p>Inferior Glide: Patient in supine position with shoulder abducted to 90degree and externally rotated support the arm and slide distally to the humerus</p>	<p>2sets of 10 repetitions</p> <p>2sets of 10 repetitions</p>



**Figure1: Application of Bowen's technique that is Bowen moves and Glides**

**RESULT**

**Table No 2: Pre-post Comparison of range of motion in frozen shoulder patient**

SL No:1	Pre-treatment range		Post- treatment range	
	AROM	PROM	AROM	PROM
Flexion	0-70 <sup>0</sup>	0-75 <sup>0</sup>	0-175 <sup>0</sup>	0-180 <sup>0</sup>
Extension	0-35 <sup>0</sup>	0-40 <sup>0</sup>	0-55 <sup>0</sup>	0-60 <sup>0</sup>
Abduction	0-60 <sup>0</sup>	0-68 <sup>0</sup>	0-168 <sup>0</sup>	0-175 <sup>0</sup>
External rotation	0-15 <sup>0</sup>	0-20 <sup>0</sup>	0-73 <sup>0</sup>	0-80 <sup>0</sup>
Internal rotation	0-50 <sup>0</sup>	0-55 <sup>0</sup>	0-65 <sup>0</sup>	0-70 <sup>0</sup>

**Impression:** Pre-Post comparison of range of motion showed improvement in range of motion in the following movements shoulder flexion, extension, abduction, external rotation, and internal rotation.

**Table No 3: Pre-post comparison of shoulder pain and disability in frozen shoulder**

SPADI SCALE	PRE-DATA	POST-DATA
	Very severe	Moderate

**Impression:** Pre-Post comparison of SPADI scale showed improvement from very severe shoulder pain and disability to moderate shoulder pain and disability.

## DISCUSSION

The present study was to find out the effectiveness of Bowen's technique on shoulder range of motion, pain, and disability in patients with frozen shoulder. Frozen shoulder is an extremely painful and debilitating condition characterized by progressive limitation of both active and passive range of motion<sup>2,4</sup>. The Bowen technique is a system of subtle and very precise mobilizations called Bowen moves<sup>6</sup>. A Bowen move focus on individual muscles for several seconds by the application of gentle pressure which plays an important role to restore structural integrity and optimal function by enhancing range of motion and function<sup>9</sup>.

In this present study, it was found that 4 weeks of Bowen's therapy is effective in improving range of motion in frozen shoulder patients. This study was supported by Michelle Marr et.al (2011) where they evaluated the effectiveness of Bowen's technique on hamstring flexibility over time which concluded that use of Bowen's technique significantly increases the flexibility and range of motion (ROM) of hamstring muscle<sup>10</sup>. Similar study was done by Ewelina Kuczynski et.al (2018) where they concluded that Bowen therapy showed significant improvements in range of motion of the lumbar spine in low back pain<sup>19</sup>.

In this present study, application of Bowen's therapy showed marked improvement on pain and functional disability in frozen shoulder patients. This was supported by a study conducted by Chee LA Ying et.al (2023) where they highlighted that Bowen therapy targeted at myofascial pain was useful in relieving pain, improving functional outcomes, and enhancing quality of life<sup>12</sup>. Another study done by Nida Aslam et.al (2023) where they reviewed the efficacy of Bowen therapy in postural neck pain among dentists and showed that Bowen therapy is effective in improving postural neck pain<sup>13</sup>.

In this present study, Bowen's therapy showed improvement in both range of motion and shoulder pain and disability in frozen shoulder patients. This was supported by a study conducted by Peeyush Nitsure et.al (2015) where they analyzed that Bowen therapy targeted at acute Trapezitis was effective in improving ROM, reducing pain, and reducing neck disability<sup>15</sup>.

Shoulder pain and disability index was used for pain and disability evaluation in this present study. Similar study was done by Einar Kristia et.al (2018) where they measured the shoulder pain and disability by using the shoulder pain and disability index (SPADI) in patients with adhesive capsulitis<sup>20</sup>. Another study done by John D. Breckenridge et.al (2011) provided a strong support for validity and reliability on shoulder pain and disability index<sup>18</sup>.

Goniometer was used for range of motion evaluation in this present study. Similar study was done by Ferwa Tahrim et.al (2024) where they evaluated the shoulder range of motion by using the goniometer application in patients with adhesive capsulitis<sup>14</sup>. Another study done by Suzanne F van Rijn et.al (2018) provided a strong support for validity and reliability on goniometer<sup>17</sup>.

Duration of intervention of this present study was for 4 weeks. Similar study was conducted by Muhammad Mustafa et.al (2023) where they devised Bowen therapy for 2 weeks. The measurement was taken at the baseline and after two weeks, which showed 2 weeks of Bowen therapy was beneficial and effective treatment for a tension-type headache<sup>11</sup>.

This study had some limitations. First strengthening exercise was given in the intervention but strength measurement was not taken as outcome measure. Second the duration of study was limited to 4 weeks long term effects are unknown. Finally, after the intervention period further follow ups are not done.

Further research can be conducted in a larger population with longer duration, with different outcome measures and with different exercise therapy interventions for individuals with Frozen shoulder. Bowen therapy for frozen shoulder is backed by several studies on its effectiveness on reducing pain and

improving functional activity. Comparative study with other interventions like muscle energy technique, myofascial release can be done in future studies. Based on the results of this study, Bowen technique can be done in patients with frozen shoulder.

## CONCLUSION

The findings of this study concluded that Bowen therapy showed better improvement in range of motion and shoulder pain and disability in patients with frozen shoulder

### Declaration of the patient consent

The authors attest to having all the gotten all necessary patients consent. The patients has/have provided his/her/their approval on the form of his/her/their photos and clinical information to be reported on this journal. Subject aware that their initials and name will not be published, and that every attempt will be made to keep their identities hidden, but anonymity cannot be guaranteed.

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Nil

### Conflict of interest

There are no conflicts of interest.

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